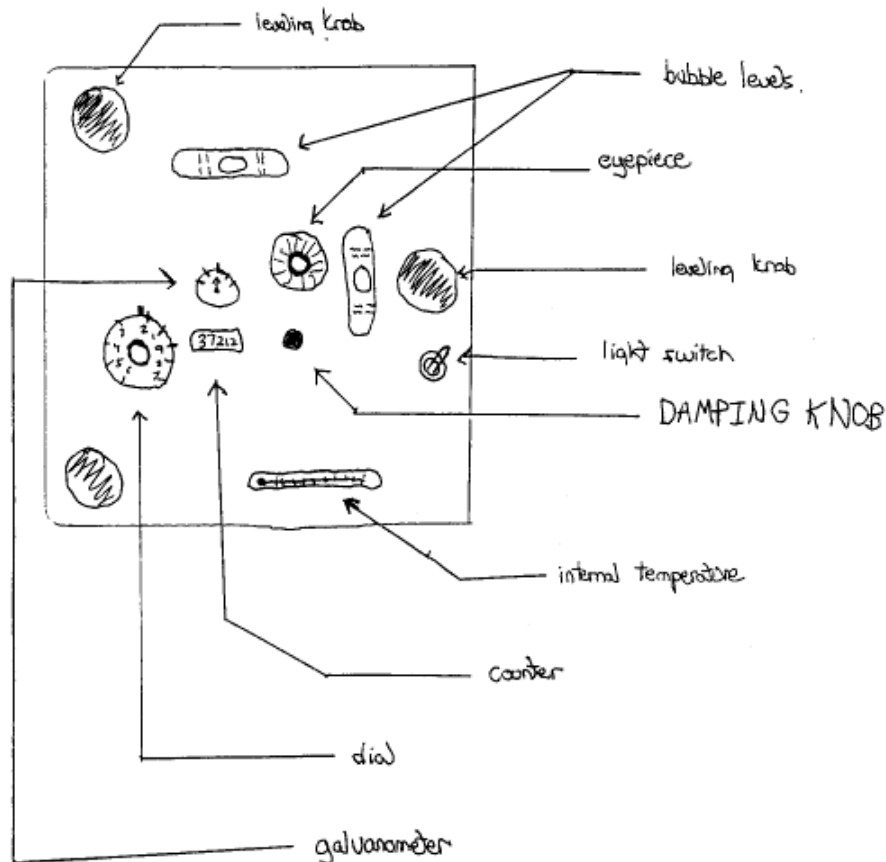


Lacoste & Romberg Gravimeter Instructions

Treat the meter with the respect any old and delicate instrument deserves. Do not pick up the case by the handle on top unless you are sure it is locked. Never tilt the meter more than a few degrees. Most importantly: ALWAYS BE SURE TO TURN THE DAMPING KNOB CLOCKWISE TO ITS FURTHEST EXTENT before moving the instrument!!!!!!

- Carefully remove gravimeter from case. You may want another student to hold the case steady.
- If using the plate, position plate on surface/ground, so that bubble in center shows that it is level.
- Place gravimeter on the plate or on the surface/ground. Turn on light switch.
- Level gravimeter, using black leveling knobs. First level the right bubble with the left knobs, then the top bubble with the right knob.
- Turn damping knob counterclockwise to its furthest extent to unlock the gravimeter. DO NOT MOVE THE GRAVIMETER NOW THAT IT HAS BEEN UNLOCKED!
- Turn dial to left (counter clockwise) to move galvanometer needle left; turn dial right (clockwise) to move needle right. Adjust dial until needle is approximately in 12 o'clock position.
- Peer through eyepiece and locate beam. Fine tune dial, so left side of beam matches up with right side of 2.5 reading line. Now you are ready to record the measurement.
- Record the number in the counter AND the number on the dial.
- After taking your reading, BE SURE TO TURN DAMPING KNOB CLOCKWISE TO ITS FURTHEST EXTENT before moving gravimeter. Turn off light. Return instrument to case.



Translating the Meter Reading Into Milligals

- There is a decimal point before the last digit on the counter. The dial allows you to make a more precise measurement (hundredths). The last digit on the counter should match the dial after round off.
 - Example: Counter number is 37212. Dial number is 2.1. Total meter reading is 3721.21.
 - Example: Counter number is 37212. Dial number is 1.8. Total meter reading is 3721.18.
- The measurement in milligals is obtained by first finding the highest tabulated "counter reading" lower than your reading. Subtract that tabulated value from your reading and multiply this difference by the tabulated "interval factor" to convert this difference to milligals. Add the tabulated "value in milligals" to this difference in milligals.
 - For a calibration table for this meter, see the table attached.
 - Example:
 - Meter reading: 3891.23
 - Highest "counter reading" lower than meter reading in table: 3800
 - Difference: 91.23
 - Interval factor from table: 1.06144
 - Difference x Interval Factor: 96.83 mGal
 - "Value in milligals" from table: 4027.25 mGal
 - Sum of last two values: 4124.08 mGal

COUNTER READING*	VALUE IN MILLIGALS	FACTOR FOR INTERVAL	COUNTER READING*	VALUE IN MILLIGALS	FACTOR FOR INTERVAL
000	000.00	1.06033	3600	3815.00	1.06114
100	106.03	1.06003	3700	3921.12	1.06129
200	212.04	1.05982	3800	4027.25	1.06144
300	318.02	1.05967	3900	4133.39	1.06160
400	423.99	1.05955	4000	4239.55	1.06172
500	529.94	1.05946	4100	4345.72	1.06184
600	635.89	1.05938	4200	4451.91	1.06194
700	741.82	1.05931	4300	4558.10	1.06203
800	847.76	1.05926	4400	4664.30	1.06212
900	953.68	1.05921	4500	4770.52	1.06219
1000	1059.60	1.05918	4600	4876.74	1.06226
1100	1165.52	1.05916	4700	4982.96	1.06233
1200	1271.44	1.05916	4800	5089.19	1.06240
1300	1377.35	1.05917	4900	5195.43	1.06245
1400	1483.27	1.05918	5000	5301.68	1.06251
1500	1589.19	1.05921	5100	5407.93	1.06256
1600	1695.11	1.05925	5200	5514.19	1.06262
1700	1801.03	1.05929	5300	5620.45	1.06266
1800	1906.96	1.05934	5400	5726.71	1.06274
1900	2012.90	1.05939	5500	5832.99	1.06276
2000	2118.84	1.05945	5600	5939.26	1.06272
2100	2224.78	1.05950	5700	6045.54	1.06263
2200	2330.73	1.05956	5800	6151.80	1.06253
2300	2436.69	1.05962	5900	6258.05	1.06241
2400	2542.65	1.05971	6000	6364.29	1.06230
2500	2648.62	1.05977	6100	6470.52	1.06216
2600	2754.60	1.05987	6200	6576.74	1.06201
2700	2860.58	1.05997	6300	6682.94	1.06185
2800	2966.54	1.06008	6400	6789.13	1.06169
2900	3072.59	1.06021	6500	6895.29	1.06152
3000	3178.61	1.06033	6600	7001.45	1.06133
3100	3284.64	1.06046	6700	7107.58	1.06116
3200	3390.69	1.06059	6800	7213.70	1.06099
3300	3496.75	1.06072	6900	7319.79	1.06080
3400	3602.82	1.06085	7000	7425.87	
3500	3708.90	1.06100			